

Abstract

A system for delivering external compression in order to stimulate angiogenesis or promote wound healing is provided. External compression causes changes in hemodynamic forces (*e.g.*, shear stress) in the vasculature that are sensed by endothelial cells and smooth muscle cells. The stimulated cells respond by secreting various angiogenic factors and growth factors such as platelet-derived growth factors A and B and basic fibroblast growth factor. The inventive method may be used to treat patient suffering from diseases characterized by low blood flow such as peripheral vascular disease and coronary artery disease. A apparatus for delivering external compression to induce angiogenesis or promote wound healing is also provided.